# CITY OF FLAGSTAFF HOSPITAL RIM FUTS IMPROVEMENTS

COF PROJECT NO. 04-09028 & 03-10012

# CITY OF FLAGSTAFF APPROVALS

THE CITY OF FLAGSTAFF APPROVES THESE PLANS FOR CONCEPT ONLY AND SHALL NOT BE LIABLE FOR ERRORS OR OMISSIONS OF THE DESIGN ENGINEER.

Rick Barrett, City Engineer

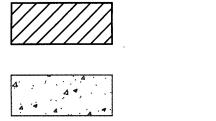
1 \ Bradley Hill, Utilities Director

# UTILITY APPROVALS

Erik Solberg, City Public Works Director

12-9-2010 Approval Letter Received \ Qwest (now CenturyLink) 12-10-2010 Approval Letter Received **UniSource Energy** Approval Letter With Conditions 12-9-2010 Conditions: APS does have overhead and underground facilities within the limits of this project. Please be aware of our facilities. 3-31-2011 Approval Letter Received

# LEGEND



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NPG (now SuddenLink)

Proposed/Existing Building

Proposed/Existing Concrete



Proposed/Existing Asphalt

Proposed Rail Fence

**Existing Waterline** 

Existing Lightpole

Proposed/Existing Flowline 

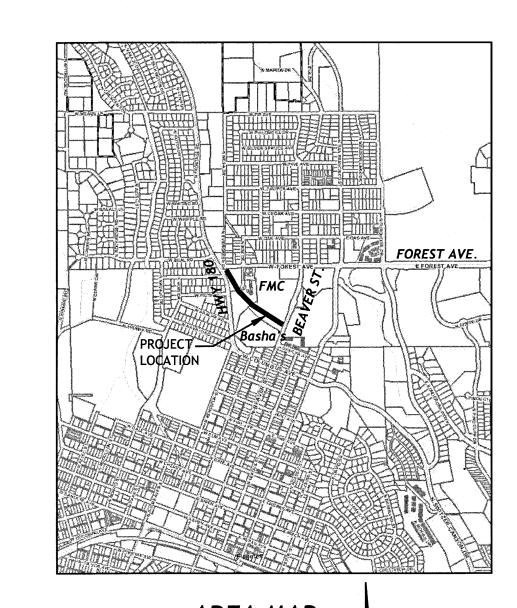
Limits of Construction Proposed/Existing Contour (2' Intervals)

Existing Sewerline

**Existing Overhead Electric** Proposed/Existing Sign

**Existing Water Valve** Existing Tree (Size Varies)

**Existing Fire Hydrant** 



# AREA MAP NOT TO SCALE

# SHEET INDEX

SHEET 1 COVER SHEET, NOTES & QUANTITIES SHEET 2 DETAILS

SHEET 3 PLAN AND PROFILE STA 10+00 TO 17+00 SHEET 4 PLAN AND PROFILE STA 17+00 TO 24+32 SHEET 5 SWPPP

# APPROXIMATE QUANTITIES

REMOVALS	

NOTE 001 Clear and grub 8 EA Remove and dispose tree and stump >12" diameter 37 LF Remove and dispose concrete curb and gutter 150 SF Remove and dispose concrete sidewalk 1 EA NOTE 005 Adjust Water Valve

# TRAIL CONSTRUCTION

KAIL CON	STRUCTION	
OTE 200	Earthwork 505 CY CUT/1850 CY Fill	1345 CY Ne
OTE 201	Subgrade Preparation	1591 SY
OTE 202	Construct Trapezoidal Channel	60 LF
OTE 203	4" Stabilized Aggregate Surface / 6" Dirty Cinders	1061 SY
OTE 204	3" AC / 6" ABC	501 SY
OTE 205	Sidewalk per MAG Detail 230	649 SF
OTE 206	4" thick concrete bike ramp	2 EA
OTE 207	Type A Vertical Curb and Gutter	37 LF

# DRAINAGE CONSTRUCTION

NOTE 500	Concrete Scupper	110 SF
NOTE 501	18" HDPE stormdrain with end sections	192 LF
NOTE 502	Type 'F' Catch Basin	1 EA

# OTHER CONSTRUCTION

OTE 900	Signage	1 LS
OTE 901	Rail Fence	320 LF
OTE 902	Seed Mulch	25,526 SF
OTE 903	Install Erosion Control Blanket	1011 SY
WPPP		

ΓE 300	Silt Fence	151:
ΓE 301	8"-10" Straw Wattles	11 E
ΓE 302	Stabilized Construction Entrance	2 E

# CITY OF FLAGSTAFF NOTES

. Approval of these plans by the City Engineer is for a one-year period, subsequent to the date of approval. If construction work is not started within the one-year period, or has been discontinued for

any reason for longer than one year, the plans shall be resubmitted for review and re-approval. 2. Plan review by the City does not extend to material quantities shown on the plans.

3. A public works permit, issued by the City, is required for all work in City rights-of-way or easements and for construction of any improvements intended to become public property.

4. The City shall be notified 24 hours prior to beginning different phases of construction so that City inspectors may be scheduled.

5. All materials and workmanship shall comply with Flagstaff City Code, Title 13, "Engineering Design and Construction Standards and Specifications for New Infrastructure", current "MAG Uniform Standard Specifications and Details for Public Works Construction", the City of Flagstaff Stormwater Design Manual, and with generally accepted engineering design and construction practice. All work and materials which do not conform to the standards and specifications are subject to removal and replacement at the contractor's expense. The contractor is responsible for reviewing Chapter 21 of these Standards which makes minor modifications to certain MAG Specifications and Details.

6. Any work performed without the knowledge and approval of the City Engineer or his authorized representative is subject to removal and replacement at the contractor's expense.

7. The City Engineer or his authorized representative may suspend the work by written notice when, in his judgment, progress is unsatisfactory, work being done is unauthorized or defective, weather conditions are unsuitable, or there is danger to the public health or safety.

8. The City Engineer may order any or all materials used in the work to be tested according to the American Association of State Highway and Transportation Officials (AASHTO) and the American Society for Testing and Materials (ASTM) Standards. The Contractor shall, at his expense, supply all samples required for testing.

). Access which meets Section 13-13-004-0001, fire hydrants, water mains, and street name signs shall be in place and approved before and at all times during on-site combustible construction and/or prior to issuance of building permits in new subdivisions. Fire Department and Engineering Section approval is required for obstruction of access or water system shutdown.

10. The contractor shall be responsible for maintenance of the streets and of partially completed portions of the work until final acceptance of the work. The contractor shall submit to the City Engineer for approval a construction schedule for any streets required to be closed or partially closed for the construction activity. The contractor shall reopen the streets no later than the opening date shown on the construction schedule or upon order of the City Engineer. The regulation and control of construction traffic shall be as directed by the City Engineer or his authorized representative.

11. Approval of a portion of the work in progress does not guarantee its final acceptance. Testing and evaluation may continue until written final acceptance of a complete workable unit. Any defects which appear in the work within one year from the date of acceptance and which are due to improper workmanship or inferior materials supplied shall be corrected by or at the expense of the owner/developer or the contractor.

12. Acceptance of completed public improvements will not be given until defective or unauthorized work is removed, and final clean-up is complete.

13. Location of underground utilities before work is begun is to be accomplished in accordance with ARS 40-360.22.

14. If work is done on private property in relation to a project constructed under these standards, the contractor will provide the City with written authorization from the property owner to do so.

15. The establishment and use of temporary construction yards shall conform to the current City Zoning Code standards for "Temporary Uses". 16. All excavated material shall be disposed of in accordance with applicable City codes and

regulations. The contractor shall obtain all required City approvals and permits, as deemed necessary by the City, to dispose of excavated material.

17. All construction staking shall be the responsibility of the contractor/developer and performed under the direct supervision of a Registered Land Surveyor or Civil Engineer.

18. All traffic sign sheeting shall be Type VIII as designed by ASTM D4956-07e1 Standard Specifications for Retroreflective Sheeting for Traffic Control, unless specified otherwise on the construction plans.

19. When the construction plans specify graffiti control on bridges or other structures, the contractor shall seal the structure first using Monochem Aquaseal ME 12 and then apply Monochem Permashield, Sacrificial Graffiti Control System (or approved equal).

20. All areas disturbed during construction shall be stabilized reseeded in accordance with Chapter 13-17 of this Title. In the event that the construction activity disturbs more than one acre, a stormwater pollution prevention plan (SWPPP) shall be prepared in order to obtain a construction general permit from ADEQ.

# Section 13-06-007-0003 Paving Notes (Paving Plans)

A. Exact point of matching termination and overlay, if necessary, shall be determined in the field by the City Engineer or his authorized representative. When a longitudinal joint associated with a trench path pavement matchup or other occurs on a street that includes a bike lane, the joint shall be located outside the bike lane.

B. No job will be considered complete until: a) all curbs, pavements, sidewalks, catch basins, storm drains, and manholes have been cleaned of all dirt and debris; b) survey monuments are installed and stamped and c) all frames, covers, and valve boxes are adjusted to grade.

C. No paving construction shall be started until all utility lines are completed and approved under proposed paved areas.

E. The location of all water valves, fire hydrants, and manholes must at all times during construction be referenced and made accessible to the City.

D. Base course will not be placed until subgrade has been approved by the City Engineer or his authorized

F. Utility facilities in conflict with this work will be relocated by the permittee or the utility owner. This activity shall be coordinated with the owner of the utility to prevent any unnecessary interruption of service to existing customers. G.Existing street name signs, traffic signs and devices associated with the project shall be maintained

during construction and relocated by the contractor as shown on the approved plans.

H. Any changes or additions to pavement markings caused by pavement overlay, chip seal, or installation of underground facilities shall be shown on the approved plans. 

# √ Section 13-06-007-0003 Paving Notes (Continued)

. On projects where the contractor causes excessive damage to an existing paved street or there are multiple street cuts (maximum of four in 500 feet) an asphalt overlay shall be required.

J. A prime coat is not required unless so specified in the soils and pavement report and/or shown on the plans.

K. All curb and gutter, sidewalk, driveways, and sidewalk ramps shall be constructed on a minimum 3 inches of aggregate base, course (ABC). The ABC shall be constructed per MAG Section 310, and shall be compacted to 95% relative density. All precast structures such as manhole bases, catch basins, and box culverts shall be constructed on a minimum of 3 inches of ABC.

#### L. Permanent pavement markings.

1. Transverse pavement markings such as stop bars and crosswalks per ADOT Standard Specification 704.

2. Pavement markings such as arrows, legends, and other complex shapes shall be installed per ADOT Standard Specification 705, Type 1.

3. Longitudinal pavement markings shall be installed per ADOT Standard Specification 708 and shall be applied in two

#### M. Temporary pavement markings

1. Temporary pavement markings, when approved, shall be installed per ADOT Standard Specification 701-3.05.

2. The use of temporary markings is strongly discouraged and may only be used with prior approval.

a. When it is used, the contractor must be available to restripe as needed until the permanent markings can be

NOTE: When it is impracticable for the contractor to provide permanent markings, the City Public Works Department may install the markings on behalf of the contract provided the fee for the work is agreed upon and paid for in advance.

### N. The maximum thickness of a single lift of pavement shall be 4 inches. ENGINEER'S GENERAL NOTES

The work shall be done in accordance with the most current edition(s) of the following specifications and these plans.

- Maricopa Association of Governments (MAG): Uniform Standard Specifications & Standard Details for Public Works
- City of Flagstaff (COF) Engineering Design & Construction Standards & Specifications 2009 Edition
- Manual on Uniform Traffic Control Devices (MUTCD)

It is the Contractor's responsibility to obtain copies of the above Standards, Specifications and Details as well as all other standards and specifications referenced by or necessary for interpreting these plans.

The Contractor is not relieved of responsibility for making complete and accurate on-site determinations of the locations of all utilities, structures and field conditions, which may affect the progress of the work.

PERMITS. The Contractor is responsible for determining what permits are required for the work and obtaining, at his own expense, the permits required unless otherwise noted in the Special Provisions.

Permitting includes compliance with the Arizona Department of Environmental Quality (ADEQ) Arizona Pollutant Discharge Elimination System (AZPDES) Construction General Permit. The Contractor is responsible for filing a Notice of Intent (NOI) and Notice of Termination (NOT) in accordance with AZPDES requirements.

UTILITIES. Underground utilities shown are approximate and were determined from field measurements, construction plans, record plans, or utility maps furnished by others. The Contractor is responsible for determining the actual locations of all underground lines that may affect the work.

The Contractor is responsible for notifying appropriate utility companies prior to construction commencing. The number to call is 1-800-STAKE-IT. The Contractor shall allow 2 working days after Blue Stake is notified before starting any excavation work in the

Where the plans call for connecting new structures to existing underground pipes or structures, the Contractor is responsible for determining the exact sizes, types and locations of existing underground improvements and furnishing the materials necessary for making the required connections.

At least 48 hours prior notice is required before disrupting utility service to make connections. The notice must include the exact time of disruption and the expected duration of loss of service.

QUANTITIES. The quantities shown are approximate and do not necessarily reflect bid schedule items. The Contractor is responsible for independently estimating work quantities prior to bidding. Payment will be based on bid schedule items.

TRAFFIC CONTROL. The Contractor is responsible for providing any necessary traffic control devices for vehicle, bicycle and pedestrian traffic affected by the construction.

STORMWATER MANAGEMENT. Adequate drainage, erosion and sediment control measures, best management practices (BMPs), and/or other stormwater management facilities shall be provided and maintained at all times during construction. The Contractor is responsible for damages to adjacent property and/or the construction site caused by his or her failure to provide and maintain adequate drainage and erosion/sediment control for the construction area.

Refer to the AZPDES Construction General Permit and ADEQ website for guidance, BMPs and reporting requirements: http://www.azdeq.gov/function/forms/appswater.html#azpdes

# SURVEY NOTES

Topographic Survey and compiled boundary and easement lines shown were provided by Arizona Surveying.

The purpose of this survey work was to provide a topographical survey of a strip of land for use in the design of a trail which will become a part of the Flagstaff Urban Trails System.

The topography survey field measurements were made during the period of October 26 thru November 1, 2010.

This survey does not represent a boundary survey. Approximate boundary lines shown were calculated from information contained in the Record of Survey of Flagstaff Medical Center- West Campus dated 11/98, recorded in Book 15, Page 59, records of Coconino County, Arizona.

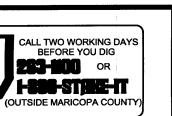
The Basis of Elevation was measured from a found brass stem located in the intersection of LeRoux and DeSilva Streets. The elevation used was 6988.5 feet, and was provided by the City of Flagstaff and originally described as a brass cap, City of Flagstaff ID #1719411.

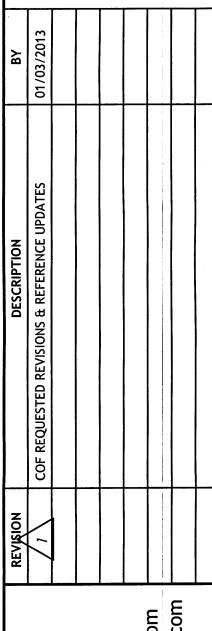
The Basis of Bearings is the line from the Northwest corner of Section 15, monumented with a 2" aluminum cap in handwell marked "LS 16544", to the West 1/16 Corner, monumented with a 2" aluminum cap marked "ARENCO LS 13010", which bears North 89°51'30" East, 1327.18 feet according to the Record of Survey recorded in Book 15 of Maps, Page 59.

# TRAIL EASEMENT NOTES

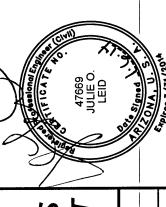
The existing blanket trail easement and the 30 foot wide Urban Trails easement described in instrument 3246301, Coconino County records, dated January 27, 2004 will be superceded by a new trail easement to be provided to the City of Flagstaff as part

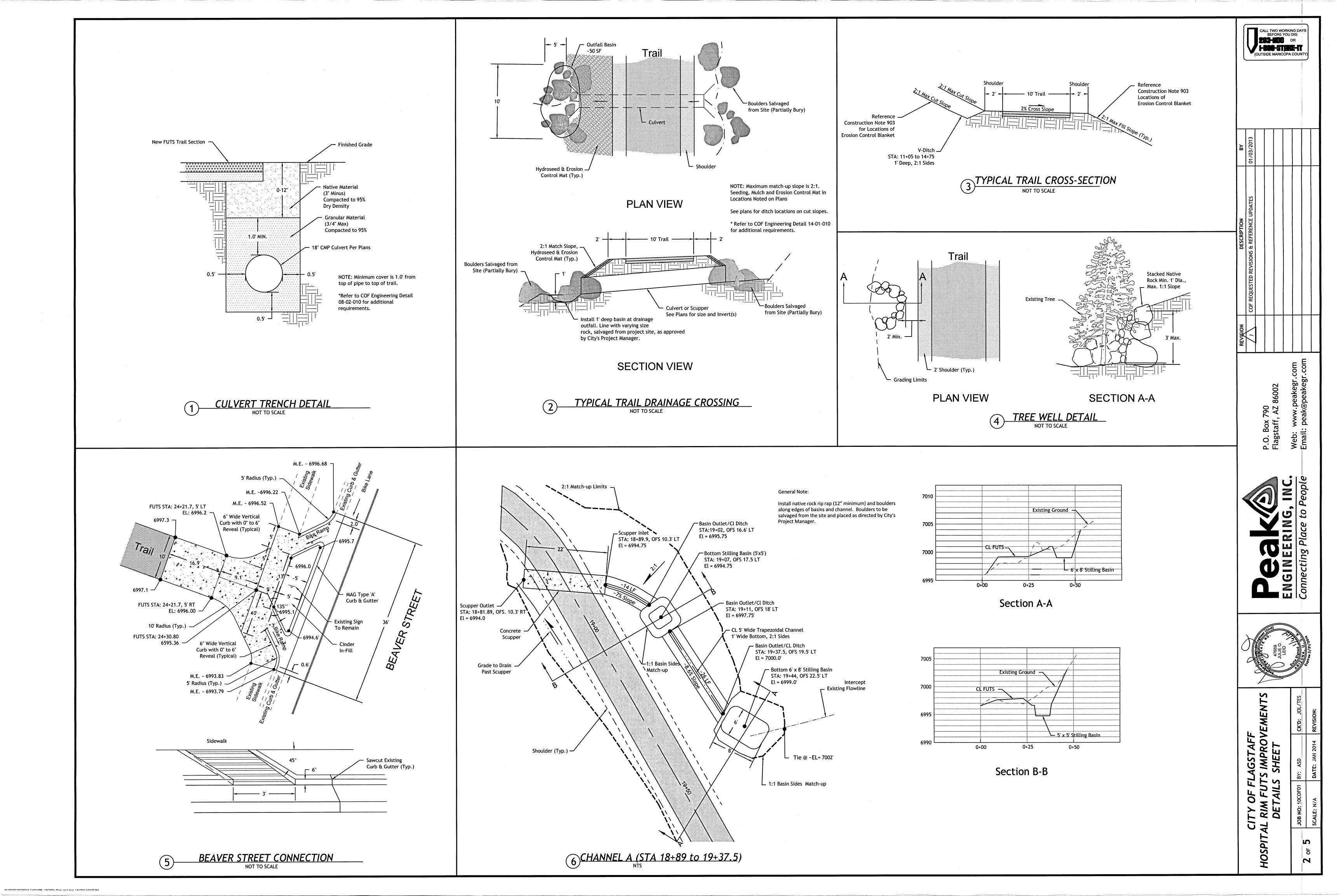
The proposed easement lines are shown on the plans.

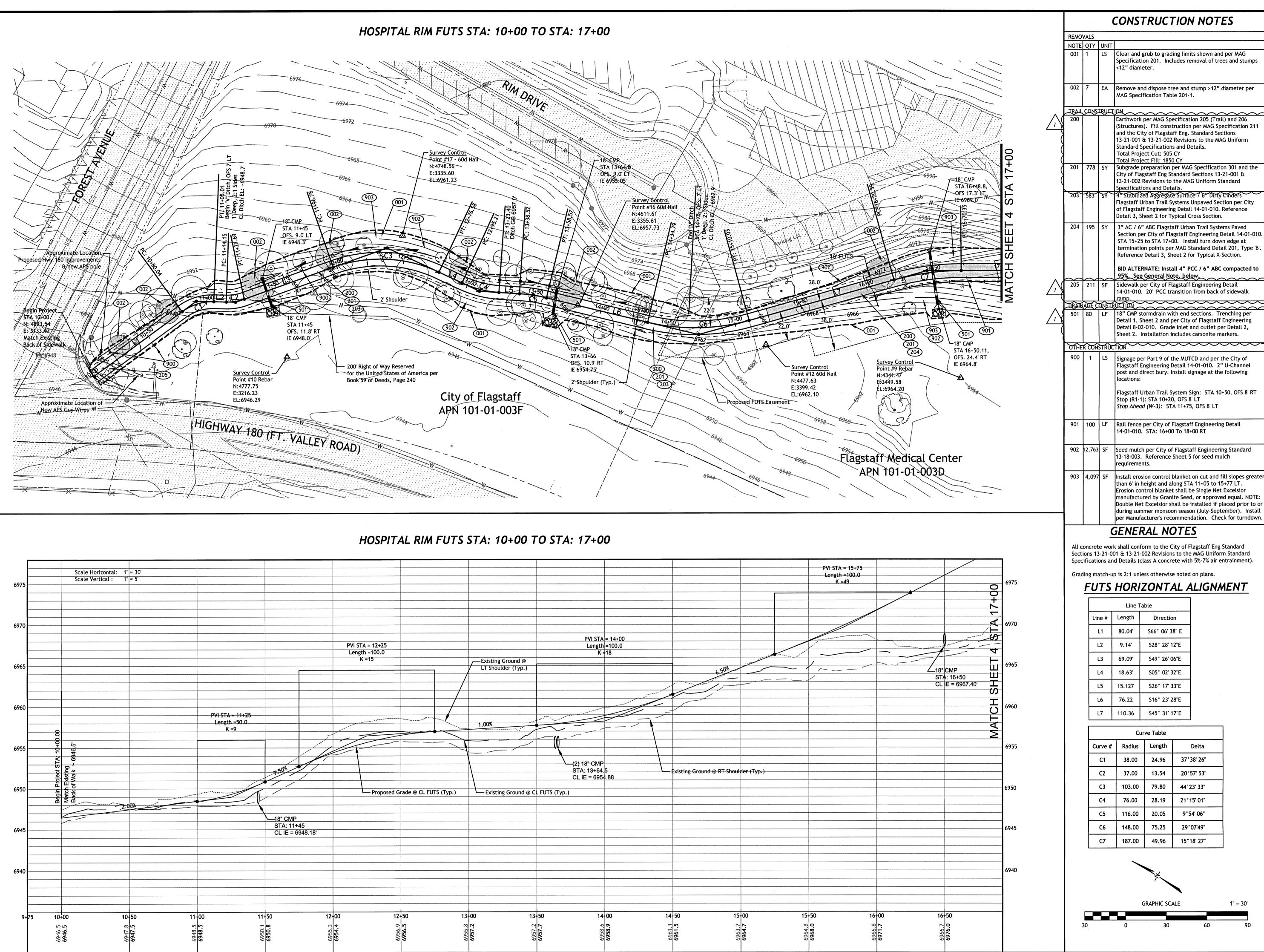




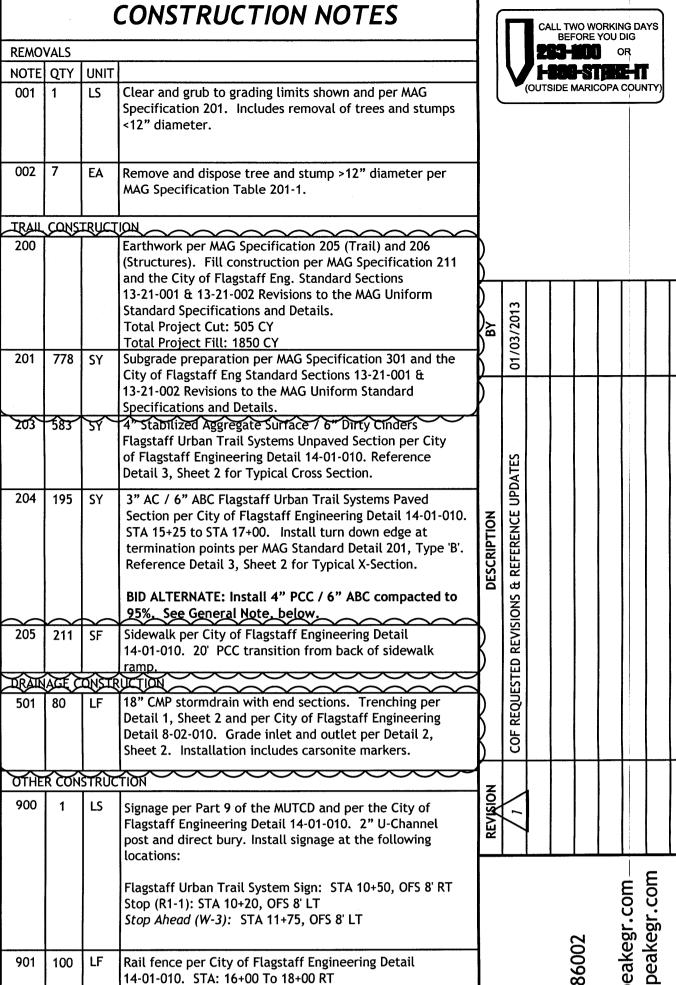








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# GENERAL NOTES

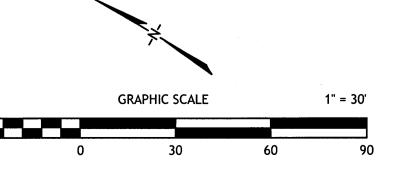
All concrete work shall conform to the City of Flagstaff Eng Standard Sections 13-21-001 & 13-21-002 Revisions to the MAG Uniform Standard Specifications and Details (class A concrete with 5%-7% air entrainment).

Grading match-up is 2:1 unless otherwise noted on plans.

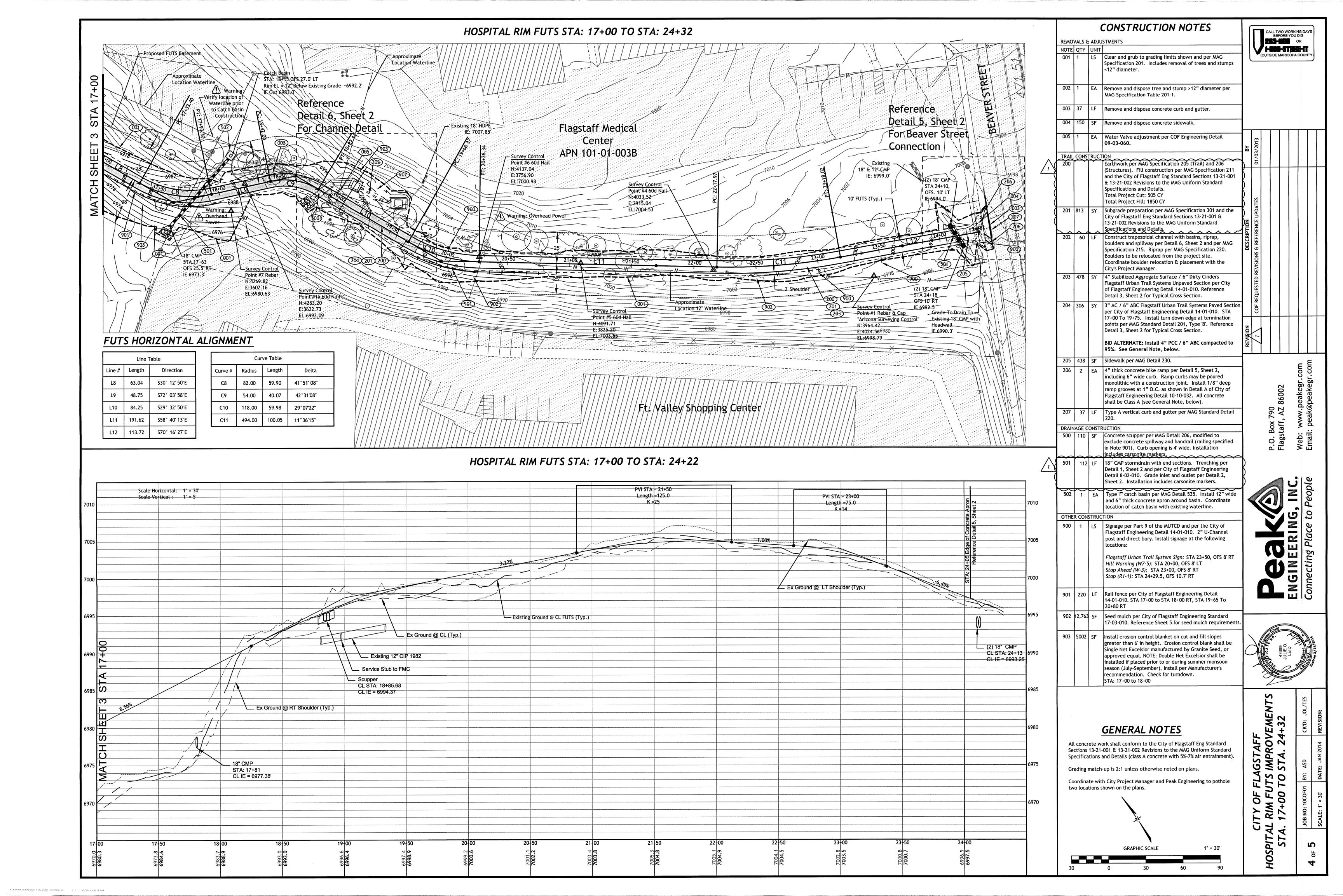
# **FUTS HORIZONTAL ALIGNMENT**

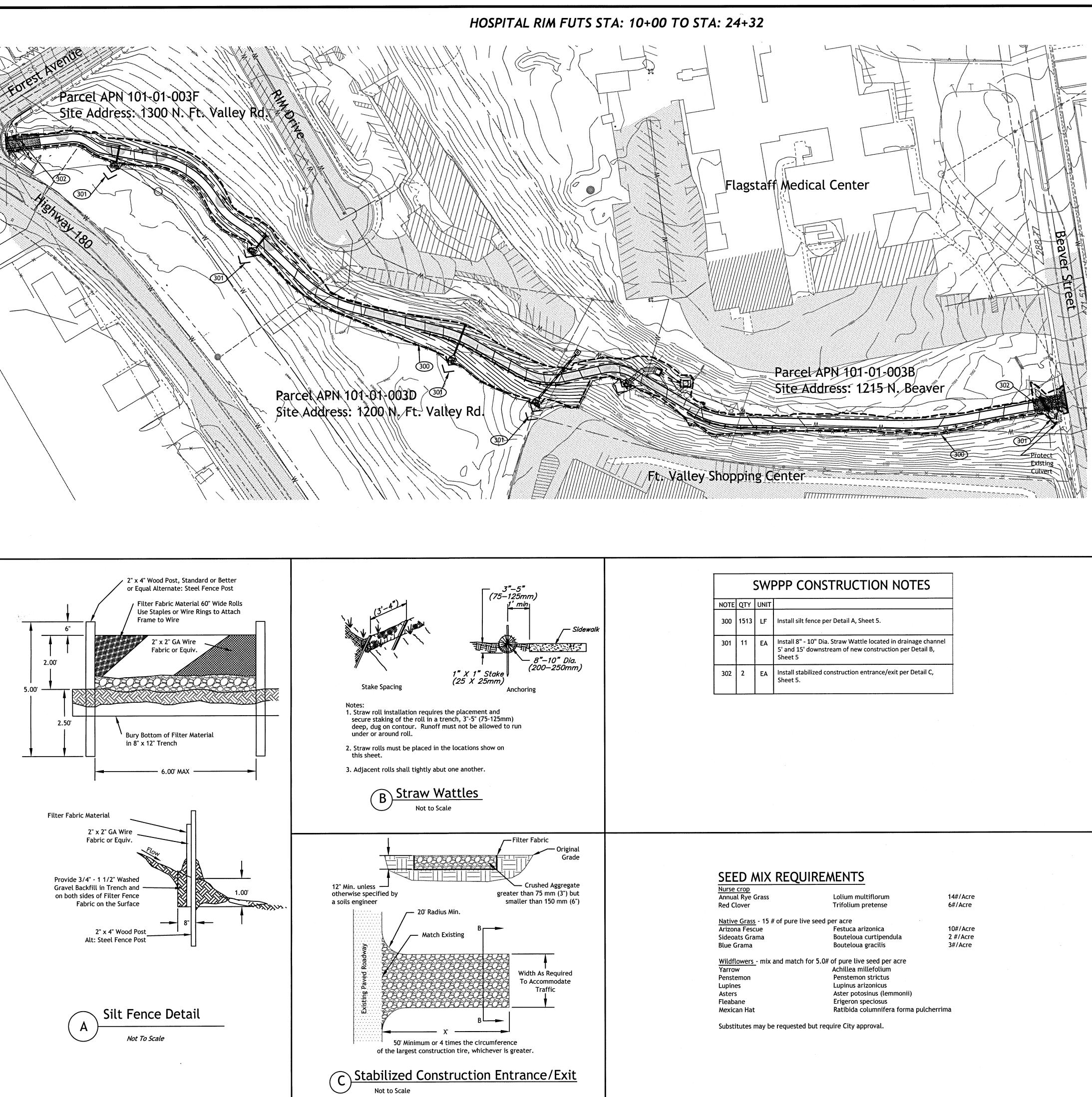
Line T	「able
Length	
	Direction
80.04'	S66° 06' 38" E
9.14'	S28° 28' 12"E
69.09'	S49° 26' 06"E
18.63'	S05° 02' 32"E
15.127	S26° 17' 33"E
76.22	S16° 23' 28"E
110.36	S45° 31' 17"E
	9.14' 69.09' 18.63' 15.127 76.22

	Curve Table		
Curve #	Radius	Length	Delta
C1	38.00	24.96	37°38' 26"
C2	37.00	13.54	20°57' 53"
С3	103.00	79.80	44°23' 33"
C4	76.00	28.19	21°15'01"
C5	116.00	20.05	9°54' 06"
C6	148.00	75.25	29°07'49"
C7	187.00	49.96	15°18' 27"









# SWPPP GENERAL NOTES:

A copy of the approved plans for this project, together with this Storm Water Pollution Prevention Plan (SWPPP), shall be maintained on the site and available for review. Those elements on the grading and drainage plan, which are pertinent to o

referenced by the SWPPP shall be considered a part of the SWPPP

The party responsible for the SWPPP is

The SWPPP shall be posted in a conspicuous location near the construction entrance, and that all operator(s) shall sign and

The SWPPP is for the roadway, drainage and utilities shown on the Public Improvement Plans. The facilities shown on this plan must be constructed in conjunction with all clearing and grading activities in such a manner as to insure that sediment-laden water does not enter the drainage system or violate applicable water standards. These facilities must be installed and in operation prior to any general grading or land clearing. Wherever possible, maintain natural vegetation for silt control.

The total estimated disturbed area for this project is: 0.98± Acres.

Hydroseeded areas shown on Construction Plans shall be in accordance with City of Flagstaff Engineering Design and Construction Standards and Specifications Title 17.

The Contractor is responsible for protecting existing improvements outside of the COF property. Any damaged improvements shall be replaced by the Contractor at his expense.

In general terms, operators are those that have the ability to make decisions concerning the project design and details, and those with the ability to make on site decisions concerning site activities and implementation of BMPs.

The operator must be a person knowledgeable in the principles and practice of erosion and sediment controls and who possesses the skills to assess conditions at the site that could impact storm water quality and the effectiveness of the BMPs selected to control the quality of the storm water discharges.

#### Operator's responsibilities include but are not limited to:

Filing the NOI an NOT with ADEQ and the City of Flagstaff, being familiar with, installing and maintaining BMP's, assigning qualified inspectors to the project to inspect the job during designated rain fall events and coordinating City of Flagstaff

The operator shall implement the SWPPP from initial commencement of construction activity until final stabilization is complete and NOT is filed, or until an NOI transferring the site to a new operator is received by ADEQ.

The Contractor/Operator is responsible for determining the sequencing of construction activities and installing the appropriate Best Management Practices (BMP's) to fit the construction sequence.

The Contractor/Operator must provide temporary stabilization for disturbed areas within 14 days, or as soon as practical.

The Contractor/Operator shall file a Notice of Intent (NOI) a minimum of 7 days prior to construction commencing.

The Contractor/Operator shall file a Notice of Termination once construction is complete, final stabilization has occurred and the City of Flagstaff has approved and accepted the project.

# The Contractor/Operator shall maintain the following records as part of the SWPPP:

a. Dates when major grading activities occur.

b. Dates when construction activities temporarily or permanently cease on any portion of the site; and c. Dates when stabilization measures are initiated and completed and reasons for delay, if applicable.

Potential pollutants from construction activities are: Asphalt Paving, Portland Cement Concrete,

The Contractor will maintain a Spill Prevention and Control Plan. In the event of a spill, Contractor will follow standard safety practices, dam, clean-up and contact AZDEQ when at or over spill reporting list.

The Contractor shall adjust SWPPP as needed for awarded portions of the project.

# **SWPPP INSPECTION NOTES:**

I. Routine Inspection Schedule. The Contractor/Operator must ensure routine inspections are performed at the site to ensure that BMPs are functional and that the SWPPP is being properly implemented. The Contractor/Operator must specify an inspection schedule as part of the SWPPP and may choose either of the following:

a. The site will be inspected at least once every 7 calendar days, or

b. The site will be inspected at least once every 14 calendar days, and also within 24 hours of the end of each storm event of 0.5inches or greater.

# 2. Reduced Inspection Frequency. When any of the following conditions apply:

# a. The site has been temporarily stabilized

b. Runoff is unlikely due to winter conditions (e.g., site is covered with snow-ice, or frozen ground exists) or

c. Construction is in an area of the state that receives < 20 inches of average annual rainfall and construction is occurring during the seasonal dry period;

The Contractor/Operator is required to routinely inspect only once each month and anytime rain is predicted and within 24 hours of the end of each storm event of 0.5 inches or greater.

# 3. Inspectors. Inspections must be done by qualified personnel.

"Qualified personnel" means a person knowledgeable in the principles and practice of erosion and sediment controls and who possesses the skills to assess conditions at the site that could impact storm water quality and the effectiveness of the BMPs selected to control the quality of the storm water discharges.

4. Scope of Inspections. Inspections must include all areas of the site disturbed by construction activity and areas used for storage of materials that are exposed to precipitation. Inspectors must look for evidence of, or the potential for pollutants entering the drainage system. Sedimentation and erosion control measures identified in the SWPPP must be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they must be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters. Where discharge locations are inaccessible, nearby downstream locations shall be inspected to the extent that the inspections are practicable. Locations where vehicles enter or exit the site must be inspected for evidence of offsite sediment tracking. All BMPs and areas inspected and the conditions found must be documented.

5. Compliance Evaluation Report. For each inspection the operator shall complete an inspection report.

#### At a minimum the report must include: a. The inspection date;

b. Name(s) and title(s) and qualifications of person(s) making the inspection. Qualifications must either be on/attached to the report or alternatively, if the SWPPP documents the qualifications of the Inspectors by name that portion of the SWPPP

c. Weather information for the period since the last inspection (or since commencement of construction activity if the first inspection), including best estimate of the beginning of each storm event duration of each event, time elapsed since last storm event, and approximate amount of rainfall for each event (in inches);

e. Location(s) and identification of BMPs that need to be maintained, failed to operate as designed or prove inadequate;

# f. Location(s) where additional BMPs that do not exist at the time of inspection are needed;

- g. Corrective actions required, including any changes to SWPPP necessary and implementation dates;
- h. Identification of all sources of non-storm water and the associated pollution prevention control measures; and i. Identification of material storage areas and, evidence of, or potential for, pollutant discharge from such areas.

# Maintaining Inspection Records.

The operator must ensure the inspection report and record of any follow-up actions taken is retained as part of the SWPPP for at least three years from the date that permit coverage expires or is terminated. Inspection reports must identify any noncompliance with the conditions of this permit. Where a report does not identify any incidents of noncompliance, the report must contain a certification that the construction project or site is being operated in compliance with the SWPPP and the permit. The report shall be signed.

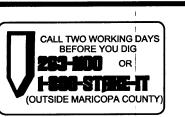
Based on the results of the inspection the operator must modify the SWPPP to include additional or modified BMPs designed to correct problems identified. The operator must complete revisions to the SWPPP within seven calendar days following the inspection. If existing BMPs need to be modified or if additional BMPs are necessary implementation must be completed before the next anticipated storm event. If implementation before the next anticipated storm event is impracticable, they shall be implemented as soon as practicable.

# Maintaining an Updated SWPPP

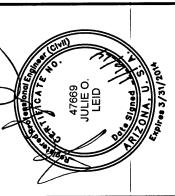
The operator must amend the SWPPP within 15 business days whenever:

d. Location(s) of discharges of sediment or other pollutants from the site;

I. There is a change in design, construction, operation, or maintenance at the construction site that has a significant effect on the discharge of pollutants to the waters of the United States that has not been previously addressed in the SWPPP; or 2. During inspections, monitoring if required, or investigations by the operator or by local, state, MS4, or federal officials, it is determined the discharges are causing or contributing to water quality exceedances or the SWPPP is ineffective in eliminating or significantly minimizing pollutants in storm water discharges from the construction site.



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